

REMARKS

Claims 1-13 are pending in this application. Claims 1, 7, 10, and 12 have been amended. Claim 13 is has been added by this amendment. Support for these amendments may be found throughout the specification, and specifically on page 5, lines 16-24, and page 10, lines 4-13. No new matter has been added by this amendment.

Rejection of claim 7 under 35 U.S.C. 112, second paragraph

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action asserts that it is not clear what is meant by the phrase “several streams” in claim 7. Applicant respectfully submits that claim 7 has been amended to clarify the phrase “several streams.” Claim 7 now reads “said capabilities being shared between several streams processed in parallel in said receiver.” This clarifies that the value to be attained for the bit rate of the stream is determined also as a function of the rate of sharing of the capabilities of the receiver, to facilitate “said capabilities being shared between several streams processed in parallel in said receiver.” For a current stream processed in the receiver, a value to be attained for its bit rate is also determined as a rate/percentage of the receiver capabilities. As a result, the receiver processes several streams in parallel and the capabilities of the receiver are shared between all of the streams. The claim refers to a rate of sharing of the capabilities of the receiver between all of these streams. Support for this amendment may be found throughout the specification and specifically on page 10, lines 4-13.

In view of the above remarks and amendments to claim 7, it is respectfully submitted that this rejection has been satisfied and should be withdrawn.

Rejection of claims 1-4 and 6-12 under 35 U.S.C. 102(b)

Claims 1-4 and 6-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et. al. (US 2001/0004352 A1).

The present claimed arrangement provides a device for the adjustment of the bit rate of a stream of contents as a function of processing capabilities of at least one receiver, with the processing capabilities being the resources of at least one receiver fit for processing the data received. The contents are transmitted by a sender to the receiver via a network, according to a communication protocol providing for a return transmission of reception data of the contents by the receiver to the sender. A module inputs information relating to the capabilities. A further module estimates a required level for the bit rate at least as a function of the information. A module for writing stream adjustment cues writes the adjustment cues for return transmission with the reception data to the sender. The adjustment cues are capable of bringing about a modification of the bit rate in relation to the required level. The communication protocol provides for a return transmission to the sender of at least one parameter relating to conditions of communication of the contents in the network between the sender and the receiver. The writing module is intended to modify the parameter in such a way as to use it to transmit the adjustment cues.

Watanabe describes a data receiving terminal. If data of a particular time section received from a data sending terminal does not satisfy a predetermined accumulation quality as the result of discrimination by a received-data quality discriminating section, an alternative-data sending requesting section requests a data sending terminal for alternative data satisfying the accumulation quality for the unsatisfied data of the particular time section. The result is that the data receiving terminal can realize both reproduction of data with less sending delay and accumulation of high-quality data. (See paragraphs [0032] through [0043])

Watanabe neither discloses nor suggests “said processing capabilities being the resources of said at least one receiver fit for processing the data received” as recited in amended claim 1 of the present arrangement. The present claimed arrangement is a device for the adjustment of the bit rate of a stream as a function of processing capabilities of a receiver. The processing capabilities are defined in claim 1 as “the resources of the receiver fit for processing the data received,” for example, for decoding of an MPEG 2 stream. These capabilities may include data processing speed, (typically represented through a CPU),

memory volume, (RAM), and energy consumption and/or presence of components dedicated to the processing of data (a hardware decoder). Excluded from this definition are entities that exist purely to regulate stream functions, such as buffer memories. A parameter of the protocol normally devoted to properties of circulation around the network is modified by the written module on the basis of processing capabilities of the receiver. Thus, Watanabe neither discloses nor suggests “said processing capabilities being the resources of said at least one receiver fit for processing the data received” as recited in amended claim 1 of the present arrangement.

The Office Action asserts that Watanabe describes “a module for inputting information relating to said capabilities” as recited in amended claim 1 of the present arrangement. Applicant respectfully disagrees. Watanabe describes a received-data discriminating section 33 which is only able to determine the quality of received AV data by consulting the data quality information attached by sending terminal 2 to the AV data (Figure 5, paragraphs [0085] and [0086]). Quality of received data cannot be considered the same as “processing capabilities of the receiver.” Specifically, the data quality discriminating section 33 of Watanabe only receives data, at its input, independent of the capacity of the receiver. Furthermore, the Examiner cites paragraphs [0095] and [0096] of Watanabe as describing the determination of accumulation quality of the received data from the data quality-variance range in Response D on pages 9 and 10 of the Office Action. Specifically, this means that the receiver selects which bit rate the receiver wants to receive based on data that represents the best quality. However, Applicant respectfully asserts that the Examiner has misinterpreted the reference. The receiver in Watanabe only checks the level of quality of received data with respect to a predefined level of quality and does not describe that a receiver selects which bit rate the receiver wants to receiver. In addition, “processing capabilities” as recited in amended claim 1 of the present arrangement relates only to the receiver and thus does not include the encoding rate. Encoding rate is not considered a “processing capability” of a device, but is instead a parameter associated with a data stream. Encoding rate depends on the complexity of the contents to be encoded and may vary from stream to stream for the same encoding device. Therefore, encoding rate is not a “processing capability” of a device.

Thus, Watanabe neither discloses nor suggests “a module for inputting information relating to said capabilities” as recited in amended claim 1 of the present arrangement.

Watanabe also neither discloses nor suggests “a module for estimating a required level for said bit rate at least as a function of said information” as recited in amended claim 1 of the present arrangement. Accumulating section 35 of Watanabe is a hard disk drive or a recording medium that is able to accumulate received data judged by discriminating section 33 as satisfying the accumulation quality (Figure 5, paragraphs [0091] and [0122]). Since accumulating section 35 is a recording medium for storing AV data of a given quality level, such a recording medium is not able to compute any values and in particular, bit rate levels. Thus, recording medium 35 cannot be considered “a module for estimating a required level for said bit rate at least as a function of said information.” In addition, applicant respectfully disagrees with Examiner’s Response C on page 10 of the Office Action. Cited paragraph [0037] of Watanabe only describes that checking of a bit rate takes place only if received data satisfies a predetermined level of quality. However, different videos of different complexities may be encoded at the same bit rate and therefore received at different qualities, with the most complex video being of lower quality than the least complex one. As a result, different quality does not equate to different bit rates as argued by the Examiner. Thus, Watanabe neither discloses nor suggests “a module for estimating a required level for said bit rate at least as a function of said information” as recited in amended claim 1 of the present arrangement.

In addition, Watanabe also neither discloses nor suggests “a module for writing stream adjustment cues that is intended to write said adjustment cues for return transmission with said reception data to said sender, said adjustment cues being capable of bringing about a modification of said bit rate in relation to said required level” as recited in amended claim 1 of the present arrangement. As discussed in the previous paragraph, the differential data request information accumulating section 39 of Watanabe is considered a recording medium for accumulating AV data. Therefore, the accumulating section 39 is not “a module for writing stream adjustment cues.” Thus, Watanabe neither discloses nor suggests “a module for writing stream adjustment cues that is intended to write said adjustment cues for return

transmission with said reception data to said sender, said adjustment cues being capable of bringing about a modification of said bit rate in relation to said required level” as recited in amended claim 1 of the present arrangement.

Watanabe also neither discloses nor suggests “said communication protocol providing for a return transmission to said sender of at least one parameter relating to conditions of communication of said contents in said network between said sender and said receiver, the writing module is intended to modify said parameter in such a way as to use it to transmit said adjustment cues” as recited in amended claim 1 of the present arrangement. Watanabe uses the RTCP protocol, which means that the parameters of the RR packets are used to transmit time information as defined by the RTCP protocol (paragraph [0023]). Specifically, the SR packet time information and the delay time information indicate a period of time lapsed in the receiving terminal from when the receiving terminal received the SR packet until the receiving terminal sends the RR packet in response to the SR packet. As a result Watanabe does not describe the modification of parameters “relating to conditions of communication of said contents in said network between said sender and receiver...in such a way as to use it to transmit said adjustment cues” which are in turn capable of modifying the bit rate in relation to a required bit rate level estimated as a function of the processing capabilities of the receiver. Furthermore, Applicant asserts that the Examiner has misinterpreted the reference when citing paragraph [0038] in Response E on page 11 of the Office Action. In Watanabe, if received data are not at a predetermined quality level, a request should be sent to the sending terminal for alternative data (paragraph [0038]). Watanabe is silent with regards to parameters “relating to conditions of communication of the contents in said network between said sender and said receiver.” Furthermore, a request for alternative data to be sent is also not the same as modifying parameters “to transmit said adjustment cues.” Thus, Watanabe neither discloses nor suggests “said communication protocol providing for a return transmission to said sender of at least one parameter relating to conditions of communication of said contents in said network between said sender and said receiver, the writing module is intended to modify said parameter in such a way as to use it to transmit said adjustment cues” as recited in amended claim 1 of the present arrangement.

Therefore, it is respectfully submitted that the rejection to claim 1 is satisfied and should be withdrawn.

Claims 2-4 and 6-9 are dependent on claim 1 and are considered patentable for the reasons set forth above regarding claim 1. Therefore, it is respectfully submitted that the rejection to claims 2-4 and 6-9 is satisfied and should be withdrawn.

Independent claim 10 provides a method including features similar to apparatus claim 1 and is considered patentable for the same reasons set forth above regarding claim 1. Therefore, it is respectfully submitted that the rejection to claim 10 is satisfied and should be withdrawn.

Claim 11 is dependent on claim 10 and is considered patentable for the reasons set forth above regarding claim 10. Therefore, it is respectfully submitted that the rejection to claim 11 is satisfied and should be withdrawn.

Independent claim 12 includes features similar to those found in claim 1 and is considered patentable for the same reasons set forth above regarding claim 1. Therefore, it is respectfully submitted that the rejection to claim 12 is satisfied and should be withdrawn.

In view of the above remarks, it is respectfully submitted that this rejection under 35 U.S.C. 102(b) is satisfied and should be withdrawn.

Rejection of claim 5 under 35 U.S.C. 103(a)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 2001/0004352 A1) in view of Teruhi et al. (US 7327676 B2).

Teruhi describes a source node which obtains from a destination node, quality information on routes to the destination node, and adaptively changes data distribution ratios for the multiple routes based on the quality information. (col. 2, lines 1-27)

Teruhi neither discloses nor suggests “said processing capabilities being the resources of said at least one receiver fit for processing the data received...a module for estimating a required level for said bit rate at least as a function of said information” and a “communication protocol providing for a return transmission to said sender of at least one parameter relating to conditions of communication of said contents in said network between said sender and said receiver, the writing module is intended to modify said parameter in such a way as to use it to transmit said adjustment cues” as recited in amended claim 1 of the present arrangement. Teruhi was cited only to show that Teruhi describes “wherein the parameter of the protocol comprises a contents loss rate” as recited in claim 5, since Fig. 4 of Teruhi shows that the format of the receiver report includes the number of packets lost. However, Teruhi does not disclose or suggest the aforementioned features of amended claim 1 of the present arrangement.

In addition, a combined system of Watanabe and Teruhi, similar to the individual systems, also neither discloses nor suggests the aforementioned features of amended claim 1 of the present arrangement. The combination of Watanabe and Teruhi would instead create a system with a receiver without a device allowing for adjustment of the bit rate stream of contents as a function of processing capabilities. Without the capability to adjust the bit rate stream of contents as a function of the processing capabilities, the combination of Watanabe and Teruhi does not achieve the goal of adjusting the bit rate stream simply and efficiently without new communication protocols for different models of receivers. Thus, the combination of Watanabe and Teruhi, similar to the individual systems, neither discloses nor suggests “said processing capabilities being the resources of said at least one receiver fit for processing the data received,” “a module for estimating a required level for said bit rate at least as a function of said information” and a “communication protocol providing for a return transmission to said sender of at least one parameter relating to conditions of communication of said contents in said network between said sender and said receiver, the writing module is intended to modify said parameter in such a way as to use it to transmit said adjustment cues” as recited in amended claim 1 of the present arrangement.

Claim 5 is dependent on claim 1 and is considered patentable for the reasons set forth above regarding claim 1. Therefore, it is respectfully submitted that the rejection to claim 5 is satisfied and should be withdrawn.

In view of the above remarks, it is respectfully submitted that this rejection is satisfied and should be withdrawn.

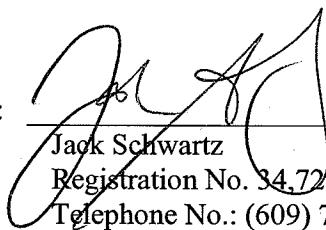
In addition, new claim 13 is dependent on claim 1 and is allowable for the reasons presented above regarding claim 1.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No additional fee is believed due. However, if an additional fee is due, please charge the additional fee to Deposit Account 07-0832.

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